REMARKS

Favorable reconsideration of this application and the Office Action of November 27, 2007 are respectfully requested in view of the foregoing amendments and the following remarks.

Filed simultaneously with this Response is a Request for Correction wherein it is requested that the USPTO records for this application be corrected to correctly identify the first name of the first named inventor.

Claims 1 to 9 remain under consideration in this application.

The rejection of claims 1-9 under 35 U.S.C. 112, second paragraph, is respectfully traversed. Claim 1 has been amended to provide antecedent support for terms and to clarify the claim language. The specification has also been amended to provide the corresponding antecedent basis for the various F_{k1}, F_{k2}, F_{k3}, and F_R terms from the original claims. Since these appear in the original claims there is no new matter. The specification has also been amended to correct several typographical errors. In view of the amendment to claim 1 the Section 112 rejection has been obviated and therefore it reconsideration and withdrawal is respectfully requested.

The rejection of claims 1 to 9 under 35 U.S.C. 103 over Alicot et al. (US 4,371,698) is again respectfully traversed. It is submitted that a correct understanding of the invention by the USPTO makes the unobviousness of the claimed invention readily apparent.

For the benefit of the USPTO there is presented, in even more detail, another analysis of the process of the Alicot et al. patent and that of the present invention as defined in the claims of this application.

The principle of US Patent No. 4,371,689 of Alicot et al. "Process for the purification of Mercaptobenzothiazole", dealing with purification of 2-mercaptobenzothiazole (2-MBT hereinafter) in aniline, consists **primarily in returning the aniline filtrates** from the product purification **into the system**. To prevent accumulation of impurities, which originate in the synthesis reactor, during continued recycles of used filtrates, it is necessary to remove a part of the used filtrates from the system. The amount of removed filtrates should correspond with the content of impurities in the raw product, i.e. if the raw product contains 5 - 10 % of impurities, the corresponding (equivalent) amount of the filtrate should by removed from the system to keep mutual equilibrium in the composition of the system streams.

The principle of removing impurities from the system in that extent (amount), in which they enter the system together with the raw product, is disclosed by Alicot et al. in Stage 3. Simultaneously, they deny the principle incomprehensibly, when they state at the end of the Example that the non-distillable part of the removed filtrate portion (just that containing impurities) "may be wholly recycled into the synthesis reactor". (see: *(The undistillable part is either eliminated or recycled wholly or in part in the synthesis reactor.)* Such procedure makes impossible subsequent purification of the raw product.

The essential difference between the US Patent No. 4,371,689 (Alicot) and the present US Patent Application No. 10/579,319 consists in **the necessity to thicken (concentrate) by distillation enormous amounts of aniline filtrates from crystallization and from washing**, as described in US No. 4,371,689, Stage 3 and in the Example.

With the solution according to this present US Patent Application No. 10/579,319, **it is not necessary to concentrate the aniline filtrates, the necessity of distillation falls away**, which fact may be considered to be the most substantial contribution, resulting from the above method. Aniline enters the process of preparation and purification of 2-MBT upstream to the product, i. e. the 2-MBT from crystallization is elutriated in pure aniline; all filtrate from elutriation proceeds to crystallization of the raw product; the filtrate from

crystallization is divided between the reactor for further preparation of the raw 2-MBT and crystallization of so prepared raw product. The process is essentially designed in such a way that aniline required for 2-MBT formation in the synthesis reactor is, before entering the reactor, sufficient in its amount for purification of the newly synthesized raw 2-MBT (i.e. 2-MBT arisen in the preceding step).

Without the cyclization, much like **according to Alicot, crystallization and final purification of 2-MBT requires about 5-fold amount of aniline**. When balancing inputs and outputs of the process according to the present invention of US Patent Application No. 10/579,319, **approximately equimolar ratio of 2-MBT: aniline and no thickening** of filtrates of the purification process **is sufficient**.

The PTO has also taken the position that batch and continuous processes are not patentably distinct. According to the PTO Office Action, the difference between Alicot et al. and this US Patent Application No. 10/579,319 merely consists in that **Alicot does not divide the liquid phase** (thus, it is "continuous"), and in the process according to this US Patent Application No. 10/579,319, the liquid phase is divided in three parts and, therefore, the process is considered to be "discontinuous" (batch), and from the point of view of patentability it is not different (distinct). One might be inclined to agree with this view, if the divided liquid phases were treated in the same way as in Alicot et al. However, this is not the case. Alicot et al.specifies explicitly that **the liquid phase from the purification is thickened (concentrated) before recirculation** (see STAGE 3, below) **into the process, aniline is distilled off it. The thickened (concentrated) phase is returned only to crystallization** (see Example as quoted, below):

In the Alicot disclosure concerning STAGE 3, Recycling, the 1st sentence thereof, at column 3, lines 59-61, states:
"**The recycling of the liquid phases is carried out after the aniline is distilled whereby it is concentrated to a determined volume** ..."

and next at column 4, lines 9 to 15, it is stated:

"The process of the invention allows **the recovery** without difficulty **of the unreacted starting material** and the valuable by-products found in the reaction product: **aniline** and benzothiazole in particular. **This recovery is made on the one hand during the concentration of the liquid phases before recycling, and on the other hand by distillation of the removed fraction."**

Then, in the Example, at column 4, lines 64 to 68, Alicot et al. further states:
"The filtrate from the filtration, after elimination of 90 grams, is added to the various fractions from the washing: **after concentration to 1000 grams by distillation under reduced pressure, it is recycled in a further purification operation**."

In contrast, the process according to this US Patent Application No. 10/579,319:

1) the parts of liquid phases, which are returned into the process, are not thickened (concentrated) at all, and

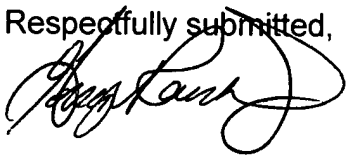
2) the not thickened (concentrated) liquid phase is at the same time (simultaneously) returned to two places of the process: into the synthesis reactor and to the stage of subsequent crystallization.

Therefore, the process according to the US patent application No. 10/579,319 cannot be considered to be a "batch" variant of the process according to Alicot et al.

For at least the reasons set forth hereinbefore it is abundantly clear that the disclosure in the Alicot et al. patent does not teach or, in any way, render Applicant's claimed invention obvious to one skilled in the art.

It is respectfully submitted that the foregoing is a full and complete response to the Office Action and that all the claims are allowable for at least the reasons indicated. An early indication of their allowability by issuance of a Notice of Allowance is earnestly solicited.

Respectfully submitted,

By: 

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